

## NOTABLE DEVELOPMENT IN AUTOMOBILE LUBRICATION

System Has Been Perfected by  
Engineers of Olds Motor  
Works.

### EXCLUSIVE IN MODEL 47

Result of Long Tests Made to  
Determine How Oil Could Be Supplied  
to All Working Parts of Engine in  
Proper Quantities.

One of the notable developments in automobile lubrication is the oiling system perfected by engineers of the Olds Motor Works for use in the engine of the Model 47 Oldsmobile, the eight-cylinder car produced by that company.

The system is the result of long tests that were made to determine how oil could be supplied to all working parts of the motor in proper quantities and to take care of lubrication at all speeds. An oil gauge on the instrument board of the car registers the pressure of the oil in the system and indicates to the driver that oil is being fed to all of the bearings.

An important feature of this system, which is original with the Model 47 engine, is the cooling chamber on the top of the crankcase, which utilizes the air that is driven back from the fan, thus cooling the oil as it circulates to the various bearings.

The body of oil passes through this cooling chamber and down a hole driven through the crankcase to the front main bearing. After this bearing is lubricated the oil registers with a hole in the crankshaft and passes from the front of the shaft through drilled passages to the rear end and the rear main bearing. As it passes from the front to the rear of the shaft the oil feeds through holes in the crank pins, lubricating the connecting rod bearings. There is also a direct pipe line to the rear main bearing, to insure adequate lubrication for this bearing immediately after the engine is started. The crank shaft lies just below this chamber of passage, and its three large bearings are thus directly lubricated under pressure.

The cooling chamber, which in reality constitutes an oil reservoir, is always full, even though the dash gauge shows but one-pound pressure. This insures positive lubrication of the bearings because the oil chamber would lubricate them by gravity even if the pressure in the system were insufficient to force the oil through the crankshaft.

The intense work of the Olds engineers on the oiling problem has made possible the perfection of a

system which not only affords sufficient lubrication and proper cooling of the oil under all conditions, but which results in unusually high oil mileage.

## PITTSBURGH-KOKOMO CAR RECORD BROKEN

Apperson Covers 140-Mile Run in Less  
Than Twelve Hours—At One  
Point Made Detour.

A record run between Pittsburgh and Kokomo, the home of the famous Apperson car, was recently established, according to a report by T. E. Jarrard, vice-president of the Apperson Bros. Automobile Company, of Kokomo, Ind.

What is believed to be a new record for motor vehicles, between Kokomo and Pittsburgh, was set yesterday by Nelson B. McLean, of the Apperson Bros. Automobile Company, when he covered the distance in a little less than twelve hours, actual running time, stated Jarrard.

The trip was made in Mr. McLean's Apperson tourster, which has been in service two years. The distance recorded by the car was 140 miles. The shortest distance by highway between Kokomo and Pittsburgh is approximately 125 miles. Mr. McLean followed the short route in the main. At one point, because of rebuilding of a stretch of road, he had to make a detour, which increased the distance they had to cover by about fifteen miles.

This is just another demonstration of an Apperson's dependability to do what others have not done.

**L. D. C. Look for 250 Delegates.**  
It is expected that more than 250 delegates will attend the State convention of the Virginia division of the United Daughters of the Confederacy which assembles at the Jefferson Hotel, in this city, on October 11. Mrs. Newton McVeigh will lead in memorial services. Mrs. Norman V. Randolph will submit the report on the library and Miss Annie Mann, of Petersburg, will report for the Lee Mausoleum. Mrs. Cabell Smith, president of the division, will preside.

**Named Representative at Cornell.**  
CHARLOTTSVILLE, VA., Oct. 1.—Dr. Thomas L. Watson, professor of geology of the University of Virginia and State geologist of Virginia, has been appointed by President Edwin A. Alderman to represent the University of Virginia at the inauguration of Dr. Livingston Farrand as president of Cornell University in Ithaca, October 24. Dr. Watson is an alumnus of Virginia and Cornell receives his Ph. D. from the latter institution in 1917.

## URGES UNIFORM LAWS TO CURB TRUCK HAZARDS

Motor Vehicle Conference  
Committee Chairman Dis-  
cusses Needed Legislation.

### STRICTER ENFORCEMENT VITAL

Accidents Usually Found to Arise  
From Excessive Size, Weight or  
Speed of Car; Overloading, Defec-  
tive or Inadequate Equipment.

**BOSTON, MASS., Oct. 1.**—Motor truck transportation can be made far more safe by the adoption of uniform scientific traffic laws in all the States, and by stricter enforcement of the statutes, in the opinion of D. C. Fenner, chairman of the Motor Vehicle Conference Committee and manager of the Public Works Department of the International Motor Company, speaking before the New England Conference of State Highway Commissioners and Motor Vehicle Registrars. The Motor Vehicle Conference Committee represents the automobile owner, manufacturer, dealer, parts and tire associations of the motor vehicle industry. The conference of commissioners was held in connection with the annual congress of the National Safety Council.

**Conflicting Rules of the Road.**  
Mr. Fenner stated that careful analysis of accidents, in which motor trucks have figured, has revealed the fact that the disasters have usually arisen from excessive size, weight or speed of the vehicles; from overloading or from inadequate or defective equipment. Still other causes were reckless or incompetent operators, improper enforcement of the laws and conflicting traffic regulations as between States or the municipalities within the States.

After citing instances to illustrate the manner in which these causes of accidents have operated disastrously, he recommended to the highway commissioners and motor vehicle registrars that they lend their support to the movement which has been begun to bring about the general enactment and enforcement of uniform motor vehicle laws throughout the entire United States. In this connection he explained those provisions of the proposed uniform vehicle law, which have a vital bearing on those factors, and showed how the adoption of the measures recommended would make for safety.

**Should Encourage Motor Transport.**  
He concluded by emphasizing to public officials that motor transportation is an increasingly important medium of commerce, that its development is today only in its infancy, and that the wisest course for everyone to pursue is to develop sound and equitable regulations for rendering this new type of transportation safe and not measures for stifling its legitimate and vitally necessary growth.

## Grant Six

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Light-Weight Six

Power—Economy  
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Sedans and Coupes

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## FIVE BILLION DOLLARS IS SAVED EACH YEAR

Undreamed-of Economies Are  
Achieved as Result of the  
Automobile.

"Five billion dollars a year saved in time through the use of the automobile," says Clarence A. Earl, president of Frisco Motors, is a conservative estimate of the actual time saved in the use of the automobile as against other means of every day transportation. Even figuring as low as an hour a

day saved per car, this means a daily saving of 9,000,000 hours. Many business men count their time as worth from \$5 to \$25 an hour. Striking an average of all trades and businesses as low as \$2 an hour, you will see that this figure in a year's time an actual saving of tremendous volume.

The keen vision of manufacturers who sensed this economic value of the motor car is appreciated when you realize economies of this kind, only by viewing the automobile industry in its broadest sense are we able to visualize the great part it has played in the march of civilization.

EMERGENCY ROAD SERVICE RENDERED  
ANY HOUR, NIGHT, DAY OR SUNDAY

## OUR SPECIALLY EQUIPPED TOWING CARS

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Has been the dominating factor that prompted the opening of our new store with every accessory for your motor car needs. We appeal to your sense of thrift to pay us a visit.

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They Mean—More calls per day  
protection from weather  
roominess and comfort  
refinement and elegance

LOWER PRICES Than Before the War!

Easy terms  
Immediate Delivery if  
you order at once



## Who Collects for the Mental Anguish?

Paying out ten or twenty dollars for reinsurance doesn't seem to annoy some car owners. But the loss of time! The irritation! The inconvenience! Wouldn't you think they'd figure THAT into the cost, too?

Reminds me of Tim Thomas. His wife got the idea he was getting interested in Nell Butterworth, and sued the girl for alienation of affections. The bill read: "To loss of husband, \$100; to mental anguish, \$10,000."

**Mental anguish**—that's it! Would you say a \$15 battery was really cheap if you had to take \$10,000 of "mental anguish" with it? Not for mine! I play safe and stick to the Willard Threaded Rubber Battery.

Threaded Rubber lasts as long as the plates—does away with reinsurance expense. Builders of 184 cars and trucks pay an additional price for Willard Threaded Rubber Batteries.

W.S.M.

Cars Originally Equipped by Their Makers with  
Willard Threaded Rubber Batteries:

American Beauty	Halladay	Packard
Austin	Harfield	Paige
Belmont	Haynes	Panhard
Biddle Crane	Henry	Peterson
Canadian Buick	Huffman	Peoria
Cadillac	Hupmobile	Peugeot
Carroll	Jordan	Phonix
Cave	Kiwi	Pierce-Arrow
Chevrolet	Lancia	Prado
Climax	Land	Prentiss
Comet	Lexington	Renault
Continental	M.H.C.	Reo
Crawford	McFarlan	Riddle
Cummins	Marmion	Rock Falls
Daimler	Mercedes	Rolls Royce
Dodge	Mitton (Tiqua)	Rover
Dodge	Mitton	R & V Knight
Dodge	Mitton	Sayers
Dodge	Mitton	Standard 8
Dodge	Mitton	Stanley
Dodge	Mitton	Stearns
Dodge	Mitton	Y.F. Stewart
Dodge	Mitton	Studebaker
Dodge	Mitton	Stutz
Dodge	Mitton	Tarkington
Dodge	Mitton	Veie
Dodge	Mitton	Westcott
Dodge	Mitton	Wills Sainte Claire
Dodge	Mitton	Winton

Also standard equipment on  
91 models

## Ask for Threaded Rubber

Willard Threaded Rubber lasts as long as the plates! It avoids the time-loss, the expense and the exasperation of reinsurance. It solves the most troublesome problem left in the storage battery business.

Its effectiveness has been so thoroughly proved by thousands of trials in the hands of all sorts of owners, that there is nothing even remotely debatable about the proposition!

If anything was ever completely demonstrated in the automobile business, it is that the Willard Threaded Rubber Battery gives more life, stands more

abuse and yields more miles of uninterrupted service per dollar than any other battery.

Can you choose any more wisely than have the builders of 184 makes of cars and trucks that the Willard Service Man tells about in his column?

Get rid of battery trouble by going today to a Willard Service Station and having a Willard Threaded Rubber Battery put on your car. Be sure to ask for it by the full name, for you can't get Threaded Rubber results with anything but a Willard Threaded Rubber Battery!

Go to your nearest dealer for Willard Service  
or a new Willard Threaded Rubber Battery:

**VIRGINIA**  
Boydton, Beales, Bedlinger &  
Gregory, Inc.  
Charlottesville, Moorefield  
Storage Batt. Co.  
Danville, Danville Sto. Batt.  
Co.  
Farmville, Peerless Sto. Batt.  
Co.

Fredericksburg, J. E. Brickert  
& Co.  
Harrisonburg, Wine Bros.  
Harrisonburg, Clark Battery &  
Supply Company  
Newport News, Huntington  
Co. & 27th St. Batt. Co.  
Petersburg, J. A. Blick & Co.

Richmond, Dallas A. Schafer  
& Co., Inc.  
So. Boston, D. C. Elam  
Staunton, Palmer Battery  
Service Company  
Suffolk, L. M. Hitchens & Co.  
Urbanna, Southside Marine  
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